AMENDMENTS

In the Claims:

Please amend claim 1 and cancel claims 18 and 19 as shown in the Claim Listing.

CLAIM LISTING

1. (Currently Amended) A vapor delivery system for dispensing a vaporized material having a controllable heating apparatus comprising:

a heating element;

a voltage source coupled to said heating element;

a variable resistor coupled to said heating element and said voltage source, said variable resistor including a fixed resistive element and a moveable element, said moveable element having a position and adjustably contacting said fixed resistive element at a contact point associated with said position;

said fixed resistive element having a length and comprising a first thin film resistor and a second thin film resistor substantially parallel to said first thin film resistor, said first and second thin film resistors having a width that varies non-linearly over said length

said variable resistor having a resistance that is at least partially non-linearly related to said position;

said heating element having a dissipated power that is at least partially linearly related to said position, said dissipated power at least partially linearly related to a temperature of said heating element.

2. (Original) The controllable heating apparatus of claim 1, wherein said heating element comprises a thin-film resistor.

3. (Original) The controllable heating apparatus of claim 2, wherein said heating element comprises a thin-film resistor having a serpentine pattern.

4. (Original) The controllable heating apparatus of claim 1, wherein said voltage source comprises an AC power source.

5. (Original) The controllable heating apparatus of claim 1, further including a vapor dispensing device thermally coupled to said heating element, said vapor dispensing device configured to release vapor into an environment at a rate that is a function of said dissipated power.

6. (Original) The controllable heating apparatus of claim 1, wherein said moveable element comprises a component selected from the group consisting of a slider switch, a dial, a knob, a screw, and a thumbwheel.

7. (Original) The controllable heating apparatus of claim 1, wherein said fixed resistive element comprises at least one thin film resistor.

8. (Original) The controllable heating apparatus of claim 7, wherein said at least one thin film resistor has a first end, a second end, and an attribute that varies non-linearly between said first end and second end, said attribute selected from the group consisting of width, thickness, material, and sheet resistance.

9. (Canceled)

10. (Currently Amended) The controllable heating apparatus of claim 91, wherein said width varies continuously over said length in accordance with a geometric function selected from the group consisting of a square-root function, a logarithmic function, and a polynomial function.

11. (Currently Amended) The controllable heating apparatus of claim 91, wherein said width varies in accordance with a period of discrete steps.

12. (Currently Amended) The controllable heating apparatus of claim 91, wherein said moveable element has a high position, a low position, and at least one intermediate position between said high and low positions, and wherein said dissipated power at said high, low, and intermediate position define a substantially linear curve.

13. (Previously Presented) A variable resistor for controlling a heating element in a vapor delivery system for dispensing a vaporized material coupled in series with a voltage source V, the heating element being of the type characterized by a resistance RH and a dissipated power PH = IVH, wherein I is the current through the heating element and VH is the voltage across the heating element, said variable resistor comprising:

a fixed resistive element having a length L;

a moveable element having a position x adjustably contacting said fixed resistive element at a contact point associated with said position x;

said fixed resistive element having a resistance RS(x);

wherein the dissipated power *PH* is related to *RS*(x) by the equation:

$$P_H = C_1\left(\frac{1}{R_S^2 + C_2 R_S + C_3}\right)$$

where $C_1 = V^2 R_H$, $C_2 = 2R_H$, and $C3 = R_H{}^2$;

said dissipated power linearly related to a temperature of said heating element;

and wherein RS(x) is a non-linear function and PH(x) is at least partially linear.

14. (Previously Presented) The variable resistor of claim 13, wherein $R_S(x) \propto \sqrt{x/L}$.

15. (Previously Presented) The variable resistor of claim 13, wherein said fixed resistive element comprises two substantially parallel thin film resistors having widths *w* which vary non-linearly as a function of *x*.

16. (Previously Presented) The variable resistor of claim 13, wherein $w(x) \propto \sqrt{x/L}$.

17. (Previously Presented) The variable resistor of claim 13, wherein said moveable element has a high position X_{high}, a low position X_{low}, and at least one intermediate position, wherein said dissipated power P_H has a curve which substantially intersects a line defined by $(X_{high}, P_H(X_{high}))$ and $(X_{low}, P_H(X_{low}))$ at three points along said curve.

18-19. (Canceled)